

CLAIMS

1. A plastic fuel tank, comprising
a main body having a laminated structure including a layer made of gasoline
5 barrier material, an outer layer made of weldable plastic material and a hole formed in said
main body so as to communicate an interior and exterior of said tank main body with each
other; and
a component part fitted in said hole, said component part including a first part
made of gasoline barrier material extending across said component part so as to
10 substantially separate the interior and exterior of said tank main body from each other and a
second part made of weldable plastic material provided in a peripheral part of said
component part at which said component part is welded to a part of said outer layer of said
tank main body surrounding said hole.
- 15 2. A plastic fuel tank according to claim 1, further comprising a seal member
interposed between a peripheral part of said hole and an outer circumferential surface of
said component part to seal off said welded part from the interior of said tank main body.
- 20 3. A plastic fuel tank according to claim 1, wherein said first part of said component
part made of the gasoline barrier material includes an outer layer of said component part
which is formed over said second part and extends at least to a vicinity of said welded part.
- 25 4. A plastic fuel tank according to claim 1, wherein said first part of said component
part includes a wall member of said component part which extends to at least to a vicinity of
said welded part, and said second part includes an annular member attached to said wall

member so as to be interposed between said first part and said welded part.

5. A plastic fuel tank according to claim 4, wherein said annular member is
interposed between opposing parts of said first part and the outer layer of the tank main
5 body.

6. A plastic fuel tank according to claim 4, wherein said second part extends along an
inner circumferential surface of said annular member to at least a vicinity of said outer layer
of said tank main body.

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7. A plastic fuel tank according to claim 4, wherein said second part extends along an
outer circumferential surface of said annular member to at least a vicinity of said outer layer
of said tank main body.

15 8. A plastic fuel tank according to claim 1, wherein said gasoline barrier material of
said component part has a HC permeability coefficient of 15 g-mm/m² per day or less at 40
°C.

20 9. A method for making a plastic fuel tank comprising a main body having a
laminated structure including a layer made of gasoline barrier material, an outer layer made
of weldable plastic material and a hole formed in said main body so as to communicate an
interior and exterior of said tank main body with each other; and a component part fitted in
said hole, said component part including a first part made of gasoline barrier material
extending across said component part so as to substantially separate the interior and exterior
25 of said tank main body from each other and a second part made of weldable plastic material

provided in a peripheral part of said component part at which said component part is welded to a part of said outer layer of said tank main body surrounding said hole, said method comprising the steps of:

preparing a component part having a peripheral part adapted to abut on said part

5 surrounding said hole, said peripheral part defining an annular abutting surface defined by said first and second parts disposed concentrically one next to the other, said second part at said abutting surface projecting slightly beyond said first part at said abutting surface; and

thermally welding said abutting surface of said component part to said part

surrounding said hole to such an extent that said first part at said abutting surface reaches at

10 least to an immediate vicinity of said part surrounding said hole as a result of softening or melting of said second part at said abutting surface.

10. A method for making a plastic fuel tank comprising a main body having a laminated structure including a layer made of gasoline barrier material, an outer layer made

15 of weldable plastic material and a hole formed in said main body so as to communicate an interior and exterior of said tank main body with each other; and a component part fitted in said hole, said component part including a first part made of gasoline barrier material extending across said component part so as to substantially separate the interior and exterior of said tank main body from each other and a second part made of weldable plastic material

20 provided in a peripheral part of said component part at which said component part is welded to a part of said outer layer of said tank main body surrounding said hole, said method comprising the steps of:

preparing a component part having a peripheral part adapted to abut said part

surrounding said hole, said peripheral part defining an annular abutting surface defined by

25 said first and second parts disposed concentrically one next to the other, said second part at

said abutting surface defining a concentric annular recess; and

thermally welding said abutting surface of said component part to said part surrounding said hole to such an extent that said first part at said abutting surface bends and lies over said part surrounding said hole without interfering with the welding of said 5 abutting surface of said component part to said part surrounding said hole as a result of softening or melting of said second part at said abutting surface.

11. A component part adapted to be fitted in a hole provided in a plastic fuel tank main body, said fuel tank main body having a laminated structure including a layer made of 10 gasoline barrier material and an outer layer made of weldable plastic material, and said hole communicating an interior and exterior of said tank main body with each other, said component part comprising:

a first part made of gasoline barrier material extending across said component part so as to substantially separate the interior and exterior of said tank main body from each 15 other; and

a second part made of weldable plastic material provided in a peripheral part of said component part at which said component part is welded to a part of said outer layer of said tank main body surrounding said hole, said peripheral part defining an annular abutting surface defined by said first and second parts disposed concentrically one next to the other, 20 said second part at said abutting surface projecting slightly beyond said first part at said abutting surface.

12. A component part according to claim 11, wherein said second part projecting beyond said first part at said abutting surface defines a convex surface.

13. A component part according to claim 11, wherein said second part projecting beyond said first part at said abutting surface defines a slanted flat surface which is withdrawn on a side adjacent to said first part.

5 14. A component part adapted to be fitted in a hole provided in a plastic fuel tank main body, said fuel tank main body having a laminated structure including a layer made of gasoline barrier material and an outer layer made of weldable plastic material, and said hole communicating an interior and exterior of said tank main body with each other, said component part comprising:

10 a first part made of gasoline barrier material extending across said component part so as to substantially separate the interior and exterior of said tank main body from each other; and

15 a second part made of weldable plastic material provided in a peripheral part of said component part at which said component part is welded to a part of said outer layer of said tank main body surrounding said hole, said peripheral part defining an annular abutting surface defined by said first and second parts disposed concentrically one next to the other, said second part at said abutting surface defining a concentric annular recess.